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CURRICULUM VITAE

Larry Zeng, Ph.D.

1. PERSONAL DATA

Name: Gengsheng Lawrence Zeng
Citizenship: The United States of America
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2. EDUCATION

B.S., Applied Mathematics
Xidian University
Xi'an, China
Thesis: "Searching for Self-dual Sequences" 《自互反序列与自互补序列寻觅》

M.S., Electrical Engineering
University of New Mexico
Albuquerque, New Mexico

Ph.D., Electrical Engineering
University of New Mexico
Albuquerque, New Mexico
Dissertation: "A New Adaptive IIR Algorithm and the Convergence Factors for Digital and Analog Adaptive Filters"

3. PROFESSIONAL EXPERIENCE

July 2020 – present
> Associate Professor, Department of Computer Science, Utah Valley University, 800 West Universty Parkway, Orem, UT, 84058

August 2019 – June 2020
> Visiting Scholar, Department of Engineering, Utah Valley University, 800 West Universty Parkway, Orem, UT, 84058

July 2019 – August 2019
> Research Staff, College of Engineering, Applied Sciences and Technology, Weber State University, 1447 Edvalson St., Odgen, UT 84408

March 2014 – June 2019

>Tenured Associate Professor, Department of Engineering, Weber State University, 1447 Edvalson St., Dept. 1803, Odgen, UT 84408

August 2013 – March 2014

>Assistant Professor, Department of Engineering, Weber State University, 1447 Edvalson St., Dept. 1803, Odgen, UT 84408

August 2013 – present

>Adjunct Professor, Department of Radiology and Imaging Sciences, University of Utah, CAMT, 729 Arapeen Drive, Salt Lake City, UT 84108-1218, phone: (801) 581-3918, fax: (801) 585-3592

July 2005 – August 2013

>Tenured Professor, Department of Radiologyn and Imaging Sciences, University of Utah, CAMT, 729 Arapeen Drive, Salt Lake City, UT 84108-1218

July 2008 – 2017

>Adjunct Professor, Department of Bioengineering, University of Utah, 50 S. Central Campus Dr., Salt Lake City, UT 84112-9206

July 2008 – 2017

>Adjunct Professor, Department of Electrical and Computer Engineering, University of Utah, 50 S. Central Campus Dr., Salt Lake City, UT 84112-9206

Jan 2013 – Dec 2013

>Adjunct Professor, School of Electrical & Electronic Engineering at Yonsei University, Seoul, South Korea

September 2003 – June 2008

>Adjunct Associate Professor, Department of Bioengineering, University of Utah, 50 S. Central Campus Dr., Salt Lake City, UT 84112-9206

July 2001 – June 2005

>Tenured Associate Professor, Department of Radiology and Imaging Sciences, University of Utah, CAMT, 729 Arapeen Drive, Salt Lake City, UT 84108-1218

July 1999 – June 2001

>Associate Professor, Department of Radiology and Imaging Sciences, University of Utah, CAMT, 729 Arapeen Drive, Salt Lake City, UT 84108-1218

March 2000 – June 2008

>Research Associate Professor, Department of Electrical and Computer Engineering, University of Utah, 50 S. Central Campus Dr., Salt Lake City, UT 84112-9206

Dec. 1994 – June 1999

>Assistant Professor, Department of Radiology and Imaging Sciences, University of Utah, CAMT, 729 Arapeen Drive, Salt Lake City, UT 84108-1218

July 1992 – Dec. 1994

>Research Assistant Professor, Department of Radiology and Imaging Sciences, University of Utah Medical Center, Salt Lake City, UT 84132

Dec. 1991 – June 1992

>Limited Term Instructor, Department of Radiology and Imaging Sciences, University of Utah Medical Center, Salt Lake City, UT 84132

Jan. 1989 – Dec. 1991

> Post doctoral Fellow (Research Associate), Department of Radiology and Imaging Sciences, University of Utah Medical Center, Salt Lake City, UT 84132

Jan. 1986 – Dec. 1988

> Teaching Assistant, Department of Electrical and Computer Engineering, University of New Mexico, Albuquerque, NM 87131

Feb. 1982 – Dec. 1984

> Instructor, Department of Applied Mathematics, Northwest Telecommunication Engineering Institute, Xi'an, China

4. EXTERNAL SUPPORT

NIH R15EB024283
Principal Investigator: G. L. Zeng
"Fast and robust low-dose x-ray CT image reconstruction"
$273,846 total cost, May 1, 2018 - April 30, 2022

American Heart Association 18AJML34280074
Principal Investigator: G. L. Zeng
"Sub-second image reconstruction for real-time cardiac MRI via machine-learning with complex weights"
$200,000 total cost, July 1, 2018 - June 30, 2020

NIH 1R01HL108350 - 01
Principal Investigator: G. L. Zeng
"Segmented slant hole stationary cardiac SPECT"
$1,409,860 total cost, January 15, 2012 - December 31, 2017 (NCE)

NIH 5R21 EB006830-01
Principal Investigator: G. L. Zeng
"Small animal SPECT using a skew-slit collimator camera"
$412,500 total cost, April 1, 2008 — Mar. 31, 2010

NIH R01 EB00121 (Subcontract from Lawrence Berkeley National Labs)
Principal Investigator: G. L. Zeng
"Improved cardiac SPECT with convergent hole collimators"
$784,326 total cost, January 1, 2008 - December 31, 2011

Toshiba Medical Research Institute USA
Principal Investigator: G. L. Zeng
"Development of advanced FBP algorithms for low-dose CT"

$50,000 total cost, March 1, 2012 - February 28, 2013
$50,000 total cost, March 1, 2013 - February 28, 2014

Siemens Clinical Solutions
Principal Investigator: G. L. Zeng
"Static cardiac SPECT system"
$32,000 total cost, January 1, 2009 - December 31, 2009

Benning Trust Fund
Principal Investigator: G. L. Zeng
"Non-iterative nonstationary unblurring"
$20,000 total cost, Oct., 2008 — Oct., 2009

Siemens Pre-Clinical
Principal Investigator: G. L. Zeng
"Simulation and characterization of Siemens Invenon SPECT detector"
$40,100 total cost, January 1, 2009 - December 31, 2009

NIH 1R33 EB001489-01A2
Principal Investigator: G. L. Zeng
"Image reconstruction with solid state SPECT"
$614,148 total cost, Mar. 17, 2003 — Feb. 28, 2007

NIH 1R21 EB003298-01
Principal Investigator: G. L. Zeng
"Breast cancer imaging using a solid state SPECT camera"
$448,500 total cost, Sept. 1, 2003 — Aug. 31, 2006

NIH R21 CA100181-01
Principal Investigator: G. L. Zeng
"Radio-Immunotherapy (RIT) Planning Using SPECT"
$373,750 total cost, Sept. 1, 2003 — Aug. 31, 2006

NIH R01 EB00121 (Subcontract from Lawrence Berkeley National Labs)
Principal Investigator: G. L. Zeng
"Improved cardiac SPECT with convergent hole collimators"
$336,500 total cost, July 1, 2002 - June 30, 2006

Benning Trust Fund
Principal Investigator: G. L. Zeng
"High Sensitivity Super Resolution SPECT"

$20,000 total cost, Oct., 2006 — Oct., 2007

Benning Trust Fund
Principal Investigator: G. L. Zeng
"Small Animal SPECT Using 2 Skew-Slit Collimator"
$10,000 total cost, Oct., 2005 — Oct., 2006

Benning Trust Fund
Principal Investigator: G. L. Zeng
"Small Animal SPECT with Spinning-Slit Collimator"
$15,000 total cost, Jan. 1, 2005 — Dec 31, 2005

Philips Medical Systems
Principal Investigator: G. L. Zeng
"Solstice Imaging System"
$25,000 per year, Oct. 1, 1999 — Dec. 31, 2002
$25,000 Jan. 1, 2003 — Jun. 30, 2003

Benning Trust Fund
Principal Investigator: G. L. Zeng
"Preprocessing"
$2,000 total cost, Jan. 1, 2003 — Dec 31, 2003

Benning Trust Fund
Principal Investigator: G. L. Zeng
"Whole-body SPECT for therapy planning"
$20,000 total cost, Jan. 1, 2002 — Dec 31, 2002

NIH First Award (1R29HL/CA51462-01A1)
Principal Investigator: G. L. Zeng
"Implementation of cone-beam algorithms for clinical SPECT"
$350,000 total cost, July 1, 1994 — June 30, 1999

The Whitaker Foundation
Principal Investigator: G. L. Zeng
"Cone beam reconstruction algorithms for single photon emission computed tomography"
$180,000 total cost, December 1, 1991 — November 30, 1994

Benning Trust Fund
Principal Investigator: G. L. Zeng
"An accurate projector model for iterative algorithms"

$20,000 total cost, Aug. 1, 1996 — July 31, 1997

5. HONOR SOCIETIES

Eta Kappa Nu (Electrical Engineering Society)
Tau Beta Pi (Engineering Society)

6. PROFESSIONAL ORGANIZATIONS

Fellow (since January 1, 2011), IEEE (The Institute of Electrical and Electronic Engineers), Citation: "for contributions to instrumentation and image reconstruction algorithms in single photon emission computed tomography"

7. FELLOWSHIPS

a. Chinese Government Fellowship - 1985
b. Teaching Assistant - 1986-1987
c. Research Assistant - 1988

8. REVIEWER

IEEE Transactions on Medical Imaging
IEEE Transactions on Nuclear Science
IEEE Signal Processing Letters
Medical Physics
Journal of Nuclear Medicine
Physics in Medicine and Biology
Associate Editor of Medical Physics
Belgium Research Foundation - Flanders (Fonds Wetenschappelijk Onderzoek - Vlaanderen, FWO)

9. PUBLICATIONS

A. Refereed Publications

[1]. Karni S and Zeng GL: An adaptive IIR algorithm with unimodal performance surfaces. *IEEE Trans. on Acoustics, speech, and Signal Processing,* vol. ASSP-36, Feb. 1988, pp. 286-287.

[2]. Karni S and Zeng GL: A new convergence factor for adaptive filters. *IEEE Trans. on Circuits and Systems,* vol. CAS-36, July 1989, pp. 1011-1012.

[3]. Karni S and Zeng GL: The analysis of the continuous-time LMS algorithm. *IEEE Trans. on Acoustics, speech, and Signal Processing,* vol. ASSP-37, April 1989, pp. 595-597.

[4]. Zeng GL and Ahmed N: A block coding technique for encoding sparse binary patterns. *IEEE Trans. on Acoustics, speech, and Signal Processing,* vol. ASSP-37, May 1989, pp. 778-780.

5. Karni S and Zeng GL: Comments on "Adaptive algorithms with an automatic gain control feature". *IEEE Trans. on Circuits and Systems*, vol. CAS-37, no. 7, July 1990, pp. 974-975.

6. Gullberg GT, Zeng GL, Tsui BMW and Hagius JT: An iterative reconstruction algorithm for single photon emission computed tomography with cone beam geometry. *Int. J. of Imag. Sys. & Tech.* vol. 1, 1989, pp. 169-186.

7. Zeng GL and Gullberg GT: A study of reconstruction artifacts in cone beam tomography using filtered backprojection and iterative EM algorithms. *IEEE Trans. Nucl. Sci.* vol. 37, no. 2, April 1990, pp. 759-767.

8. Gullberg GT, Christian PE, Zeng GL and Datz FL: Cone beam tomography of the heart using single-photon emission-computed tomography. *Invest. Rad.*, vol. 26, no. 7, July 1991, pp. 681-688. PMID: 1885277

9. Zeng GL, Gullberg GT, Tsui BMW and Terry JA: Three-dimensional iterative reconstruction algorithms with attenuation and geometric point response correction. *IEEE Trans. Nucl. Sci.*, vol. 38, no. 2, April 1991, pp. 693-702.

10. Zeng GL and Gullberg GT: A cone-beam tomography algorithm for orthogonal circle-and-line orbit, *Phy. Med. Biol.*, vol. 37, no. 3, March 1992, pp. 563-577. PMID: 1565691

11. Gullberg GT and Zeng GL: A cone beam filtered backprojection reconstruction algorithm for cardiac single photon emission computed tomography. *IEEE Trans. Med. Imag.,* vol. 11, no. 1, March 1992, pp. 91-101. PMID: 18218361

12. Gullberg GT, Zeng GL, Christian PE, Datz FL, Tung CH, and Morgan HT: Review of convergent beam tomography in single photon emission computed tomography. *Phy. Med. Biol.*, vol. 37, no. 3, March 1992, pp. 507-534. PMID: 1565688

13. Zeng GL and Gullberg GT: Frequency domain correction of the three-dimensional geometric point response function in SPECT imaging. *IEEE Trans. Nucl. Sci.* vol. 39, no. 5, October 1992, pp. 1444-1453.

14. Tung CH, Gullberg GT, Zeng GL, Christian PE, Datz FL, Morgan HT: Nonuniform attenuation correction using simultaneous transmission and emission converging tomography. *IEEE Trans. Nucl. Sci.*, vol. 39, no. 4, August 1992, pp. 1134-1143.

15. Zeng GL, Gullberg GT, Jaszczak RJ, and Li J: Fan-beam reconstruction algorithm for a spatially varying focal length collimator. *IEEE Trans Med. Imag.* September 1993, pp. 575- 582. PMID: 18218451

16. Weng Y, Zeng GL and Gullberg GT: A reconstruction algorithm for helical cone-beam SPECT. *IEEE Trans. Nucl. Sci.* vol. 40, no. 4, August 1993, pp. 1092-1101.

17. Gullberg GT and Zeng GL: An elliptical orbit backprojection filtering algorithm for SPECT. *IEEE Trans. Nucl. Sci.* vol. 40, no. 4, August 1993, pp. 1102-1106.

18. Zeng GL, Clack R and Gullberg GT: Implementation of Tuy's cone-beam inversion formula. *Phys. Med. Biol.*, vol. 39, March 1994, pp. 493-507. PMID: 15551594

19. Datz FL, Gullberg GT, Zeng GL, Tung CH, Christian PE, Welch A, and Clack R: Application of convergent-beam collimation and simultaneous transmission emission

tomography to cardiac single-photon emission computed tomography, *Seminars in Nuclear Medicine*, vol. XXIV, no. 1, January 1994, pp. 17-37. PMID: 8122126

[20]. Zeng GL and Gullberg GT: A backprojection filtering algorithm for a spatially varying focal length collimator. *IEEE Trans Med. Imag*. vol. 13, no. 3, Sept. 1994, pp. 549-556. PMID: 18218530

[21]. Zeng GL, Hsieh YL, and Gullberg GT: A rotating and warping projector-backprojector pair for fan-beam and cone-beam iterative algorithms. *IEEE Trans. Nucl. Sci.* vol. 41, no. 6, Dec. 1994, pp. 2807-2811.

[22]. Gullberg GT and Zeng GL: A reconstruction algorithm using singular value decomposition of a discrete representation of the exponential Radon transform using natural pixels. *IEEE Trans. Nucl. Sci.* vol. 41, no. 6, Dec. 1994, pp. 2812-2819

[23]. Gullberg GT and Zeng GL: Backprojection filtering for variable orbit fan-beam tomography. *IEEE Trans. Nucl. Sci.* vol. 42, no. 4, Aug. 1995, pp. 1257-1266

[24]. Zeng GL, Gullberg GT and Huesman RH: Using linear time-invariant system theory to estimate kinetic parameters directly from projection measurements. *IEEE Trans. Nucl. Sci.* vol. 42, no. 6, Dec. 1995, pp. 2339-2346

[25]. Gullberg GT, Hsieh Y-L, and Zeng GL: An SVD algorithm using a natural pixel representation of the attenuated Radon transform. *IEEE Trans. Nucl. Sci.* vol. 43, no. 1, Feb. 1996, pp. 295-303.

[26]. Hsieh Y-L, Gullberg GT, Zeng GL, and Huesman RH: Image reconstruction using a generalized natural pixel basis. *IEEE Trans. Nucl. Sci.* Aug. 1996, pp. 2306-2319.

[27]. Zeng GL, Gullberg GT, and Foresti SA: Eigen analysis of cone-beam scanning geometries. in Computational Imaging and Vision Series, *Three-Dimensional Imaging Reconstruction in Radiology and Nuclear Medicine.* Eds: P. Grangeat and J.-L. Amans, Kluwer Academic Publishers. 1996, pp. 75-86.

[28]. Weng Y, Zeng GL, and Gullberg GT: Filtered backprojection algorithms for attenuated parallel and cone-beam projections sampled on a sphere. in Computational Imaging and Vision Series, *Three-Dimensional Imaging Reconstruction in Radiology and Nuclear Medicine.* Eds: P. Grangeat and J.-L. Amans, Kluwer Academic Publishers. 1996, pp. 19-34.

[29]. Zeng GL, Weng Y, and Gullberg GT: Iterative reconstruction with attenuation compensation from cone-beam projections acquired via non-planar orbits. *IEEE Trans. Nucl. Sci.* vol. 44, no. 1, Feb. 1997, pp. 98-106.

[30]. Zeng GL and Gullberg GT: An SVD study of truncated transmission data in SPECT. *IEEE Trans. Nucl. Sci.*vol. 44, no. 1, Feb. 1997, pp. 107-111.

[31]. Wan X, Gullberg GT, Parker DL, and Zeng GL: Reduction of geometric distortion in echo-planar imaging using a multi-reference scan. *Magnetic Resonance in Medicine*, vol. 37, June 1997, pp. 932-942. PMID: 9178246

[32]. Weng Y, Zeng GL, and Gullberg GT: Analytical inversion formula for uniformly attenuated fan-beam projections. *IEEE Trans. Nucl. Sci.* vol. 44, no. 2, April 1997, pp. 243- 249.

33. Zeng GL, Gullberg GT, Christian PE, Bai C, Trisjono F, Tanner JW, Di Bella E: VR., and Morgan HT: Iterative reconstruction of Fluorine-18 SPECT using geometric point response correction. *J. Nucl. Med.* vol. 39, no. 1, 1998, pp. 124-130. PMID: 9443751

34. Basko R, Zeng GL, and Gullberg GT: Analytical reconstruction formula for one-dimensional Compton camera. *IEEE Trans. Nucl. Sci.* vol. 44, no. 3, June 1997, pp. 1342-1346.

35. Zeng GL and Gullberg GT: Iterative and analytical reconstruction algorithms for varying focal-length cone-beam projections. *Phys. Med. Biol.* vol. 43, no. 4, 1998, pp. 811-821. PMID: 9572506

36. Basko R, Zeng GL and Gullberg GT: Application of spherical harmonics to image reconstruction for Compton camera. *Phys. Med. Biol.* vol. 43, no. 4, 1998, pp. 887-894. PMID: 9572512

37. Huesman RH, Reutter RW, Zeng GL, and Gullberg GT: Kinetic parameter estimation from SPECT cone-beam projection measurements. *Phys. Med. Biol.* vol. 43, no. 4, 1998, pp. 973- 982. PMID: 9572520

38. Hsieh YL, Zeng GL, and Gullberg GT: Projection space image reconstruction using strip functions to calculate pixels more "natural" for modeling the geometric response of the SPECT collimator. *IEEE Trans. Med. Imag.* vol. 17, no. 1, 1998, pp. 24-44. PMID: 9617905

39. Gullberg GT, Morgan HT, Zeng GL, Tung C-H, Christian PE, Maniawski PJ, Hsieh Y-L, and Datz FL: The design and performance of a simultaneous transmission and emission tomography system. *IEEE Trans. Nucl. Sci.* vol. 45, no. 3, 1998, pp. 1676-1698.

40. Bai C, Zeng GL, Gullberg GT, DiFilippo F, and Miller S: Slab-by-slab blurring model for geometric point response and attenuation correction using iterative reconstruction algorithms. *IEEE Trans. Nucl. Sci.* vol. 45, no. 4, 1998, pp. 2168-2173.

41. Panin VY, Zeng GL, and Gullberg GT: Reconstructions of truncated projections using an optimal basis expansion derived from the cross correlation of a "knowledge set" of *a priori* cross sections. *IEEE Trans. Nucl. Sci.* vol. 45, no. 4, 1998, pp. 2119-2125.

42. You J, Liang Z, and Zeng GL: A unified reconstruction framework for both parallel-beam and variable focal-length fan-beam collimators by a Cormack-type inversion of exponential Radon transform. *IEEE Trans. Med. Imag.* vol. 18, no. 1, 1999, pp. 59-65. PMID: 10193697

43. Zeng GL, Bai C, and Gullberg GT: A projector/backprojector with slice-to-slice blurring for efficient three-dimensional scatter modeling, *IEEE Trans. Med. Imag.,* vol. 18, no. 8, 1999, pp. 722- 732. PMID: 10534054

44. Zeng GL and Gullberg GT: Helical SPECT using axially truncated data. *IEEE Trans. Nucl. Sci.* vol. 46, no. 6, 1999, pp. 2111-2118.

45. Gullberg GT, Roy DG, Zeng GL, Alexander AL, and Parker DL, Tensor tomography, *IEEE Trans. Nucl. Sci.* vol. 46, no. 4, 1999, pp. 991-1000.

46. Bai C, Zeng GL, Kadrmas DJ, and Gullberg GT: A study of apparent apical defects in attenuation corrected cardiac SPECT. *IEEE Trans. Nucl. Sci.,* vol. 46, no. 6, 1999, pp. 2104-2110.

47. Panin VY, Zeng GL, and Gullberg GT: Total variation regulated EM algorithm. *IEEE Trans. Nucl. Sci.,* vol. 46, no. 6, 1999, pp. 2202-2210.

48. Bai C, Zeng GL, and Gullberg GT: A slice-by-slice blurring model and kernel evaluation using Klein-Nishina formula for 3D scatter compensation in parallel and converging beam SPECT, *Phys. Med. Biol.* vol. 45, no. 5, 2000, pp. 1275-1307. PMID: 10843105

49. Panin VY, Zeng GL, and Gullberg GT: Regularization parameter selection for Bayesian reconstruction of attenuation maps. *IEEE Trans. Nucl. Sci.* vol. 47, no. 4, 2000, pp. 1625-1633.

50. Zeng GL and Gullberg GT: Unmatched projector/backprojector pairs in an iterative reconstruction algorithm. *IEEE Trans. Med. Imag.* vol. 19, no. 5, 2000, pp. 548-555. PMID: 11021698, PMCID: PMC5297459

51. Laurette I, Zeng GL, Welch A, Christian PE, and Gullberg GT: A three-dimensional ray-driven scatter and geometric response correction technique for SPECT in inhomogeneous media. *Phys. Med. Biol.*, vol. 45, 2000, pp. 3459-3480. PMID: 11098917

52. Bai, C, Zeng GL, and Gullberg GT: The modeling of multiple order Compton scatter in SPECT, *IEEE Trans. Nucl. Sci.*, vol. 48, no. 1, 2001, pp. 38-42.

53. Panin VY, Zeng GL, and Gullberg GT: A method of attenuation map and emission activity reconstructions from emission data, *IEEE Trans. Nucl. Sci.*, vol. 48, no. 1, 2001, pp. 131- 138.

54. Zeng GL: Image reconstruction — a tutorial, *Frontiers in Nuclear Medicine Technology*, in Special Issue of *Computerized Medical Imaging and Graphics.* vol. 25, 2001, pp. 97-103. PMID: 11137785

55. Zeng GL, Gullberg GT, Christian PE, Gagnon D, and Tung CH: Asymmetric cone-beam transmission tomography. *IEEE Trans.Nucl. Sci,.*vol. 48, no. 1, 2001, pp. 117-124.

56. Gullberg GT, Defrise M, Panin VY, and Zeng GL: Efficient cardiac diffusion tensor MRI by three-dimensional reconstruction of solenoidal tensor fields. *Magnetic Resonance Imaging*. vol. 19, 2001, pp. 233-256. PMID: 11358662

57. Taguchi K, Zeng GL, and Gullberg GT: Cone-beam image reconstruction using spherical harmonics. *Phys. Med. Biol.*, vol. 46, no. 6, 2001, pp. N127-N138. PMID: 11419632

58. Zeng GL, Gullberg GT, Christian PE, and Gagnon D: Cone-beam iterative reconstruction of a segment of a long object, *IEEE Trans. Nucl. Sci.*, vol. 49, no. 1, 2002, pp. 37-41.

59. Panin VY, Zeng GL, Defrise M, and Gullberg GT: Diffusion tensor MR imaging of principal directions: a tensor tomography approach, *Phys. Med. Biol*. vol. 47, no. 15, 2002, pp. 2737-2757. PMID: 12200936

60. Zeng GL and Gullberg GT: A channelized Hotelling trace collimator design method based on reconstruction rather than projections. *IEEE Trans. Nucl. Sci*. vol. 49, Oct. 2002, pp. 2155-2158.

61. Zeng GL, Gagnon D, Matthews C, Kolthammer J, Radachy J, and Hawkins W: Image reconstruction algorithm for rotating slat collimator, *Med. Phys.* vol. 29, no. 7, 2002, pp. 1406-1412. PMID: 12148720

62. Panin VY, Zeng GL, and Gullberg GT: Regularized iterative reconstruction in tensor tomography using gradient constraints, *IEEE Nucl. Sci.* vol. 49, Oct. 2002, pp. 2387-2393.

63. Zeng GL, Gagnon D, Natterer F, Wang W, Wrinkler M, and Hawkins W: Local tomography property of residual minimization reconstruction with planar integral data. *IEEE Trans. Nucl. Sci.* vol. 50, no. 5., pt. 2, 2003, pp. 1590-1594.

64. Zeng GL and Gagnon D: Image reconstruction algorithm for a SPECT system with a convergent rotating slat collimator. *IEEE Trans. Nucl. Sci.* vol. 51, no. 1, 2004, pp. 142-148.

65. Zeng GL and Gullberg GT: Cone-beam and fan-beam image reconstruction algorithms based on spherical and circular harmonics. *Phys. Med. Biol.*, vol. 49, pp. 2239-2256, 2004. PMID: 15248575

66. Zeng GL: Nonuniform noise propagation by using the ramp filter in fan-beam computed tomography. *IEEE Trans. Med. Imag.*, vol. 23, pp. 690-695, 2004. PMID: 15191143

67. Zeng GL and Gagnon D: CdZnTe strip detector SPECT imaging with a slit collimator. *Phys. Med. Biol.*, vol. 49, pp. 2257-2271, 2004.

68. Feng B, King MA, Zeng GL, Pretorius PH, Bruyant PP, Beach RD, Boening G, Jackewicz G, Cochoff S, and Gagnon D: The estimation of attenuation maps for cardiac-SPECT using cone-beam imaging of high-energy photons through parallel-hole collimators. *IEEE Trans. Nucl. Sci.*, vol. 51, no. 5, pp. 2699-2704, 2004.

69. Zeng GL and Gagnon D: Image reconstruction algorithm for a spinning strip CZT SPECT camera with a parallel slat collimator and small pixels. *Med. Phys.*, vol. 31, pp. 3461-3473, 2004. PMID: 15651629

70. Zeng GL and Gagnon D: CdZnTe strip detector SPECT imaging with a slit collimator. Phys. Med. Biol., vol. 49, pp. 2257-2271, 2004.

71. Gullberg GT and Zeng GL: Cardiac single-photon emission-computed tomography using combined cone-beam/fan-beam collimation. *IEEE Trans. Nucl. Sci*., vol. 52, no. 1, 2005, pp. 143-153.

72. You J, Zeng GL, and Liang Z: FBP algorithms for attenuated fan-beam projections. *Inverse Problems*, vol. 21, pp. 1179-1192, 2005, PMID: 16570111

73. Tang Q, Zeng GL, and Gullberg GT: Analytical fan-beam and cone-beam reconstruction algorithms with uniform attenuation correction. *Phys. Med. Biol.,* vol. 50, pp. 3153-3170, 2005. PMID: 15972987

74. Huang Q, Zeng GL, You J, and Gullberg GT: An FDK-like cone-beam SPECT reconstruction algorithm for non-uniform attenuated projections acquired using a circular trajectory. *Phys. Med. Biol.*, vol. 50, pp. 2329-2339, 2005. PMID: 15876670

75. Hwang DS and Zeng GL: A new simple iterative reconstruction algorithm for SPECT transmission measurement. *Med. Phys.*, vol. 32, no. 7, pp. 2312-2319, 2005. PMID: 16121587

76. Earl RD, Zeng GL, and Zhang B: Optimizing the acquisition time profile for a planar integral measurement system with a spinning slat collimator, *Med. Phys.*, vol. 32, no. 9, pp. 2793-2798, 2005. PMID: 16266093

77. Tang Q, Zeng GL, Wu J, and Gullberg GT: Exact fan-beam and 4π-acquisition cone-beam SPECT algorithms with uniform attenuation correction, *Med. Phys.*, vol. 32, no. 11, pp. 3440-3447, 2005. PMID: 16372416

78. Hwang DS and Zeng GL: Reduction of noise amplification in SPECT using smaller detector bin size. *IEEE Trans. Nucl. Sci.,* vol. 52, no. 5, pp. 1417-1427, 2005.

79. Hwang DS and Zeng GL: Convergence study of an accelerated ML-EM algorithm using bigger step size, *Phys. Med. Biol.*, vol. 51, pp. 237-252, 2006. PMID: 16394336

80. Huang Q and Zeng GL: An analytical algorithm for skew-slit imaging geometry with non-uniform attenuation correction. *Med. Phys.,* vol. 33, no. 4, pp. 997-1004, 2006. PMID: 16696476

81. You J and Zeng GL: Exact finite inverse Hilbert transforms. *Inverse Problems*, vol. 22, pp. L7-L10, 2006.

82. Feng B, Fessler JA, Pretorius PH, Beach RD, Zeng GL, and King MA: Evaluation of the ordered-subset transmission (OSTR) algorithm for transmission imaging on SPECT systems using with axially overlapping cone-beams. *IEEE Trans. Nucl. Sci.,* vol. 53, pp. 1221-1229, 2006.

83. Zhang B and Zeng GL: Study of noise propagation and the effects of insufficient numbers of projection angles and detector samplings for iterative reconstruction using planar-integral data. *Med. Phys.*, vol. 33, pp. 3124-3134, 2006. PMID: 17022204

84. Zeng GL: Detector blurring and detector sensitivity compensation for a spinning slat collimator. *IEEE Trans. Nucl. Sci.*, vol. 53, pp. 2628-2634, 2006.

85. Bal G, Di Bella VR, Gullberg GT, and Zeng GL: Cardiac imaging using a four-segment slant-hole collimator. *IEEE Trans. Nucl. Sci.*, vol. 53, pp. 2619-2627, 2006.

86. Huang Q, Zeng GL, and Wu J: An alternative proof of Bukhgeim and Kazantsev's inversion formula for attenuated fan-beam projections. *Med. Phys.*, vol. 33, pp. 3983-3987, 2006. PMID: 17153376

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B. Submitted for Publication

C. Invited Talks

1. Zeng GL: Overview of various geometric response corrections in SPECT, *SNM Mid-Winter Symposium*, Las Vegas, NV, Feb. 2-3, 1998.

2. Zeng GL: Reconstruction algorithms, *AAPM Mini-Summer School on Nuclear Medicine*, Madison, WI, June 21-23, 1998.

3. Zeng GL: Cone-Beam SPECT, University of Wisconsin, 1998.

4. Zeng GL: Image reconstruction — a tutorial, *Frontiers in Nuclear Medicine Technology*, Mol, Belgium, May 6-7, 1999.

5. Zeng GL: Practical iterative algorithms, *46th Annual Meeting of Society of Nuclear Medicine*, Los Angeles, June 8, 1999.

6. Zeng GL: SPECT Research, Peking University, Beijing, China, 1997.

7. Zeng GL: Reconstruction Algorithms in Nuclear Medicine, Xidian University, Xi'An, China, 1999.

8. Zeng GL: Medical Imaging, IEEE Utah Section Meeting, Department of Electrical Engineering, University of Utah, 2000.

9. Zeng GL: Overview of Cone-Beam Reconstruction Algorithms, Department of Medical Physics, University of Wisconsin, Madison, WI, Nov. 24, 2002.

10. Zeng GL: Development of Cone-Beam Reconstruction Algorithms, Department of Radiology, University of Iowa, Iowa City, IA, Aug. 11, 2003.

11. Zeng GL: Gamma Cameras: Yesterday, Today and Tomorrow, plenary presentation at European Nuclear Medicine Congress, Amsterdam, Aug. 23-27, 2003.

12. Zeng GL: Gamma Cameras: Yesterday, Today and Tomorrow, Department of Bioengineering, University of Utah, Sept. 5, 2003.

13. Zeng GL: SPECT Cameras: from Yesterday to Tomorrow, The 2nd World Congress for Chinese Biomedical Engineers, Beijing, China, Sept. 27-29, 2004.

14. Zeng GL: Zeng and the art of reconstruction, GE Research, Albany, NY, Nov. 8, 2006.

15. Zeng GL: Zeng and the art of how to improve small animal and human SPECT, Columbia University, New York City, NY, June 15, 2007.

16. Zeng GL: Can we do better than multi-pinhole imaging? Siemens, Knoxville, KY, Oct. 11, 2007.

17. Zeng GL: SPECT and its reconstruction methods, Hong Kong University, Hong Kong, Jan. 7, 2008.

18. Zeng GL: Principles of nuclear medicine, Zhejiang University, Hangzhou, China, Dec. 2011.

19. Zeng GL: Nuclear medicine and engineering, Biomedical Engineering Department, Unversity of Utah, 2013.

20. Zeng GL: The road to low-dose CT and real-time MRI, Brigham Young University, 2013

21. Zeng GL: Nuclear medicine and engineering, Weber State University, 2013.

22. Zeng GL: FBP that emulates iterative, Tsinghua University, Beijing, China, 2013.

23 Zeng GL: Nuclear medicine, low-dose CT and real-time MRI, The Fourth Military Medical University, Xi'An, China, 2013.

24. Zeng GL: What is nuclear medicine, Xidian University, XI'An, China, 2013.

25. Zeng GL: How does the Fourier transform make the MRI possible, Weber State University, Ogden, Utah, 2014.

26. Zeng GL: Iterative image reconstruction in one step, Shanghai Jiaotong University, Shanghai, China, Dec. 2015.

27. Zeng GL: Iterative image reconstruction in one step, United Imaging, Shanghai, China, Dec. 2015.

28. Zeng GL: Low-dose CT grand challenge, AAPM Annual Meeting, Washington DC, Aug. 1, 2016.

29. Zeng GL: Image reconstruction with arbitrary nonlinear constraints: One backprojection and no forward projection, The 4th CSE-NIMS Workshop, CT Image Reconstruction & Deep Learning, Yonsei University, Seoul, South Korea, June 14, 2017.

30. Zeng GL: Part 1: Iterative POCS algorithm with one backprojection; Part 2: Iterative reconstruction, The Fourth Military Medical University, Xi'An, China, June 2017.

31. Zeng GL: A fast method to emulate an iterative POCS image reconstruction algorithm, Xidian University, XI'An, China, June 2017.

32. Zeng GL: The role of image reconstruction algorithm in low dose CT, Varex Imaging, Salt Lake City, UT, November 2018.

33. Zeng GL: My previous work related to CT image reconstruction, United Imaging, Shanghai, China, March 2019.

34. Zeng GL: Some unorthodox thoughts on medical imaging sampling, Oxford University, Oxford, United Kingtom, October, 2019.

D. Text Books and Book Chapters

1. [Text Book] Zeng GL and Zeng M: *Electric Circuits: A Concise, Conceptual Tutorial,* Springer, ISBN 978-3-030-60514-8, 2021, https://link.springer.com/book/10.1007/978-3-030-60515-5

2. [Test Book] Zeng GL: *Image Reconstruction: Applications in Medical Sciences*, ISBN 978-3-110-50059-2, Walter de Gruyter GmbH, Berlin/Boston, 2017.

3. [Text Book] Zeng GL: *Medical Imaging Reconstruction, A Tutorial,* ISBN: 978-3-642-05367-2, 978-7-04- 020437-7, Higher Education Press, Springer, Beijing, 2009.

4. [Text Book] Zeng GL: *Medical Imaging Reconstruction, A Tutorial* (Chinese Translation), ISBN: 978-7-04-028828-5, Higher Education Press, 2010.

5. He D, Zeng GL, *at el*: Chinese Translation of C. T. Wong*, Modern Analysis*, NWTCI Press, Xi'An, China 1986.

6. Gullberg GT, Huesman RH, Ross SG, Di Bella EVR, Zeng GL, Teutter BW, Christian PE, Foresti SA: Dynamic Cardiac Single Photon Emission Computed Tomography. In *Nuclear Cardiology: State of the Art and Future Directions*, BL Zaret and GA Beller, eds., (Philadelphia, PA: Mosby-Year Book, Inc.), 1999.

7. Zeng GL: Chapter 8. Reconstruction algorithms, *Lecture Notes in AAPM Mini-Summer School on Nuclear Medicine* .

8. Zeng GL, Galt JR, Wernick MN, Mintzer RA, and Aarsvold JN: Chapter 7. Single-photon emission computed tomography, *Emission Tomography: The Fundamentals of PET and SPECT*, M Wernick and J Aarsvold, eds., (Elsevier Academic Press), 2004.

9. Zeng GL: "Principles of SPECT", in Townsend, D. (ed.), Medical Imaging: Imaging Techniques for Pre-clinical and Clinical Applications, The Biomedical & Life Sciences Collection, Henry Stewart Talks Ltd, London (online at http://hstalks.com/?t=BL1032562- Zeng), 2010.

E. Conference Proceedings

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10. TEACHING EXPERIENCES

Courses Taught

Mathematics: Calculus
Xidian University, Xi'An, P. R. China, Spring, Fall, 1982, Spring, Fall, 1984

Mathematics: Linear Algebra
Xidian University, Xi'An, P. R. China, Spring, 1983

Mathematics: Complex Analysis
Xidian University, Xi'An, P. R. China, Fall, 1983

Electrical and Computer Engineering 206: Electronics Laboratory
University of New Mexico, 1986-1988

Electrical and Computer Engineering 513: Modern Filter Theory and Design
University of New Mexico, Fall 1987

Bioengineering 652/ Electrical Engineering 602, Three-Dimensional Reconstruction Techniques in Medical Imaging.
University of Utah, Winter 1992, Spring 1994, Winter 1996, and Winter 1998

Bioengineering 651/ Electrical Engineering 601, Advanced Magnetic Resonance Imaging (Computer Simulation Labs).
University of Utah, Winter 1993 and Winter 1995

Bioengineering 552 (6320)/ Electrical and Computer Engineering 6120, Physics of Nuclear Medicine and Magnetic Resonance
University of Utah, Summer 1993, Spring 1997, Summer 1997, Fall 1998, Summer 1999, Summer 2001, Summer 2003, and summer 2005.

Bioengineering 551 (6310), Physics of X-Ray and Ultrasound Radiology
University of Utah, Summer 1994, Fall 1999

Electrical and Computer Engineering 3510, Introduction to Feedback Systems, University of Utah, Spring 2000, Spring 2001, and Spring 2002

Electrical Engineering 5530, 5540 and 6961, Digital Signal Processing, University of Utah, Fall 2000, and Fall 2002

Electrical Engineering 5510, Random Processes, University of Utah, Fall 2001, and Fall 2002

Electrical and Computer Engineering 1020 Problem Solving with Matlab, University of Utah, Spring 2003, Summer 2003, Spring 2010

Electrical and Computer Engineering 1000 Introduction to Electrical and Computer Engineering, University of Utah, Summer 2003

Bioengineering 5101 Bioinstrumentation, University of Utah, Fall 2005, Fall 2006, Fall 2007, Fall 2008

Bioengineering 5001 Biophysics, University of Utah, Spring 2006, Spring 2007

Electrical and Computer Engineering 5570 Control of Electric Motors, University of Utah, Fall 2007, Fall 2008

Teaching radiology residents: University of Utah, July 2006~2013

Teaching cardiology residents: University of Utah, February 2009~2011

Bioengineering 5401 Medical Imaging Systems, University of Utah, Fall 2009

Electrical and Computer Engineering 3500 Fundamentals of Signals and Systems, University of Utah, Fall 2010, Fall 2011, Fall 2012

Bioengineering 1102 Fundamentals of Bioengineering II, University of Utah, Spring 2011

Zhejiang University, China, Image Reconstruction, Fall 2011

Tsinghua University, China, Image Reconstruction, Summer 2013

Weber State University, Electrical and Computer Engineering 3210 Signals and Systems, Fall 2013, Fall 2014

Weber State University, Electrical and Computer Engineering 4100 Control Systems, Fall 2013, Fall 2014, Fall 2015, Fall 2016, Fall 2017

Weber State University, Electrical and Computer Engineering 1000 Introduction to Electronics Engineering, Spring 2014, Spring 2015, Fall 2015

Weber State University, Electrical and Computer Engineering 2260 Fundamentals of Electric Circuits, Spring 2014, Spring 2016

Weber State University, Electrical and Computer Engineering 1270 Introduction to Electric Circuits, Fall 2015

Weber State University, Electrical and Computer Engineering 4510 Power Systems, Spring 2014, Spring 2017

Weber State University, Electrical and Computer Engineering 6210/4210 Digital Signal Processing, Spring 2015, Spring 2016

Weber State University, Electrical and Computer Engineering 2700 Digital Circuits, Spring 2015, Spring 2017, Fall 2017, Spring 2018, Spring 2019

Weber State University, Electrical and Computer Engineering 5220/6220 Image Processing, Fall 2016, Fall 2018

Weber State University, Electrical and Computer Engineering 5420/6420 Digital Communications, Fall 2018

Weber State University, Engineering 1000 Introduction to Engineering, Spring 2019

Utah Valley University, Electrical and Computer Engineering 2700, Digital Circuits I, Fall 2019, Spring 2020

Utah Valley University, Electrical and Computer Engineering 4900, Electrical Engineering Capstone I, Fall 2019

Utah Valley University, Electrical and Computer Engineering 4950, Electrical Engineering Capstone II, Spring 2020

Utah Valley University, Electrical and Computer Engineering 3350 Control Systems, Spring 2020

Utah Valley University, Computer Science 3310 Analysis of Algorithms, Fall 2019, Spring 2020, Fall 2020, Spring 2021, Spring 2022

Utah Valley University, Computer Science 3240 Discrete Mathematical Structures II (Theory of Computation), Fall 2020, Spring 2021, Fall 2021, Spring 2022

Utah Valley University, Computer Science 2300 Discrete Mathematical Structures I, Spring 2021

Utah Valley University, Computer Science 6150 Advanced Algorithms, Fall 2021

Utah Valley University, Computer Science 6480 Advanved Machine Learning, Spring 2022

11. PATENTS

1. Zeng GL, Gullberg GL, and Morgan HT: Cone Beam Reconstruction Using Combined Circle and Line Orbits, U.S. Patent No. 5,170,439, December 8, 1992.

2. Gullberg GT, Morgan HT, Tung CH, Zeng GL, and Christian PE: Simultaneous Transmission and Emission Converging Tomography, U. S. Patent No. 5,210,421, May 11, 1993.

3. Gullberg GT, Morgan HT, Tung CH, Zeng GL, and Christian PE: Simultaneous Transmission and Emission Converging Tomography, U. S. Patent No. 5,338,936, August 16, 1994.

4. Weng Y, Zeng GL, and Gullberg GT: Cone Beam Reconstruction Using Helical Data Collection Paths, U.S. Patent No. 5,404,293, April 4, 1995.

5. Hsieh Y-L, Zeng GL, and Gullberg GT: Electronic Calibration of Single Photon Emission Computed Tomography Camera, U.S. Patent No. 5,481,115, January 2, 1996.

6. Gullberg GT and Zeng GL: Displaced Center-of-Rotation Fan-Beam Tomography for Cardiac Imaging, U.S. Patent No. 5,532,490, July 2, 1996.

7. Zeng GL and Gullberg GT: Rotating and Warping Projector/Backprojector for Converging- Beam Geometries, U.S. Patent No. 5,559,335, September 24, 1996.

8. Gullberg GT and Zeng GL: Three-dimensional SPECT Reconstruction of Combined Cone Beam and Fan Beam Data, U.S. Patent No. 5,565,684, October 15, 1996.

9. Gullberg GT, Zeng GL, and Basko R: Image Reconstruction from V-Projections Acquired by Compton Camera, U.S. Patent No. 5,841,141, November 24, 1998.

10. Basko R, Zeng GL, and Gullberg GT: Image Reconstruction For Compton Camera Including Spherical Harmonics, U.S. Patent No. 5,861,627, January 19, 1999.

11. Zeng GL, Gullberg GT, and Bai C: A Projector/Backprojector With Slice-to-Slice Blurring for Efficient 3D Scatter Modeling, U.S. Patent No. 6,381,349, April 30, 2002.

12. Panin VY, Zeng GL, and Gullberg GT: Method and Apparatus for Image Reconstruction Using a Knowledge Set, U.S. Patent No. 6,539,103, March 25, 2003.

13. Zeng GL: Variable Angular Sampling Rate for Rotating Slat-Hole Detectors of Gamma Cameras, U.S. Patent No. 6,593,576, July 15, 2003.

14. Zeng GL: Correction for Depth-Dependent Sensitivity in Rotating Slat-Collimated Gamma Camera, U.S. Patent No. 6,603,123, August 5, 2003.

15. Zeng GL: Focused Rotating Slat-Hole for Gamma Cameras, U.S. Patent No. 6,627,893, September 30, 2003.

16. Zeng GL: Correction for Depth-Dependent Sensitivity in Rotating Slat-Collimated Gamma Camera, U.S. Patent No. 6,762,413, July 13, 2004.

17. Zeng GL: Skew Slit Collimator and Method of Use Thereof, U.S. Patent 7,388,207, June 17, 2008.

18. Zeng GL: System and methods for deblurring data corrupted by shift variant blurring, U.S. Patent 7,860,333, December 28, 2010.

19. Zeng GL: System and methods for deblurring data corrupted by shift variant blurring [Continuation of US 7,860,333], U.S. Patent 8,218,889 B2, July 10, 2012.

20. Zeng GL: Collimator and related methods, U.S. Patent 8,178,845 B2, May 15, 2012.

21. Hawman E and Zeng GL: Composite segment collimators for SPECT without dead zones, U.S. Patent 8,476,610, July 2, 2013.

22. Zeng GL: Filtered backprojection image reconstruction with characteristics of an iterative MAP algorithm, U.S. Patent No. 8,908,942, December 9, 2014

23. Zeng GL and Zamyatin AA: Method and system for generating image using filtered backprojection with noise weighting and or prior in, CN103732147A, EP2881039A1, US20140029819, WO2014021349A1

12. PROFESSIONAL ACTIVITIES AND HONORS

1. National and International Committee Activities:

ABET Program Evaluator (representing IEEE), 2015 – present

    ABET on-site visit 2015: California State University (Chico, CA)

    ABET on-site visit 2016: South Dakota School of Mines and Technology (Rapid City, SD)

    ABET on-site visit 2017: University of Maryland (Baltimore, MD)

    ABET on-site visit 2018: Arkansas State University (Jonesboro, AR)

    ABET on-site visit 2019: Washington State University (Vancouver, WA)

    ABET virtual visit 2020: Al-Ahliyya Amman University (Amman, Jordan)

    ABET virtual visit 2021: Mahidol University (Nakhon Pathom, Thailand)

IEEE Joint Oversight (JOS) Committee: 2019 – 2022

IEEE NMISC (Nuclear Medical and Imaging Sciences Council) Awards committee: 2010, 2019

IEEE NMISC (Nuclear Medical and Imaging Sciences Council): 2001- 2003; 2012-2014; 2017-2019, 2022-2024

IEEE Medical Imaging Conference Awards Committee: 2003-2004, 2017

IEEE Nuclear and Plasma Sciences Society Nuclear Medical and Imaging Sciences Council, Chair of NMISC Communications (Web) Sub-Committee, 2004

IEEE Nuclear Sciences Symposium and Medical and Imaging Conference Site Selection Committee: 2001.

2020 Intermountain Engineering, Technology and Computing (IETC), Technical Committee member

NIH Study Section, 2018 (reviews grant proposals for NIH)

NIH Study Section, 2014 (reviews a P41 grant for NIH)

NIH Study Section, 2009 (reviews grant proposals for NIH)

NIH Study Section, 2000 (reviews grant proposals for NIH)

DOE Study Section, 2008 (reviews grant proposals for DOE)

Grant proposal review for the Netherlands Organisation for Scientific Research (NWO), 2010, 2011, 2012.

Deputy Chair of IEEE Medical Imaging Conference: 1999

Session Chair in the 1999 International Meeting on Fully Three-Dimensional Image Reconstruction in Radiology and Nuclear Medicine

Co-Organizer of the 1993 International Meeting on Fully Three-Dimensional Image Reconstruction in Radiology and Nuclear Medicine, Snowbird, Utah.

Co-Organizer of the 2005 International Meeting on Fully Three-Dimensional Image Reconstruction in Radiology and Nuclear Medicine, Salt Lake City, Utah.

Co-Organizer of the 2017 International Meeting on Fully Three-Dimensional Image Reconstruction in Radiology and Nuclear Medicine, Xi'An, China.

Co-Organizer of the International Conference on Image Formation in X-Ray Computed Tomography, Salt Lake City, Utah. 2010, 2012, 2014, 2018.

Served as the co-editor for the special issue of *Physics in Medicine and Biology* (Volume 39, Number 3, March 1994) which was dedicated to the 3D conference.

Served on Local Arrangement Committee of the Annual AAPM Meeting: 2001.

Served as a Scientific Program Committee Reviewer of the Annual Meeting of the Society of Nuclear Medicine: 1996-

Served in the Scientific Committee of the IEEE Medical Imaging Conference: 1993-

Organized abstract review for IEEE Medical Imaging Conference: 1999, 2000

Organized IEEE Medical Imaging Conference banquet program: 1999, 2000

Session Chair in the (1987) 30th Midwest Symposium on Circuits and Systems, Syracuse, New York.

Presentation award judge at *Frontiers in Nuclear Medicine Technology*, Mol, Belgium, 1999

Webmaster: IEEE Nuclear Medical and Imaging Sciences Council (1998, 1999), IEEE Medical Imaging Conference (1999).

2. Internal Administration Activities:

Utah Valley University, College of Engineering and Technologies, SAC Grant Award Committee (2020-present)

Utah Valley University, Computer Science Department, Chair of Hiring Committee (2020-2021)

Utah Valley University, College of Engineering and Technologies, Department of Computer Science, Engineering Initiative Scholarship Committee, (2021)

Weber State University, College of EAST Curriculum committee (2018 — 2019)

Weber State University, College of EAST Promotion and Tenure Committee (2015)

Weber State University, College of EAST Hearing Committee (2013 — 2019)

Weber State University, Department of Engineering Peer Review Committee (2015, 2018)

University of Utah Teaching Committee (2012 —2013)

University of Utah Policy Committee (2009 —2011)

University of Utah Technology Review Board (2005 — 2009)

University of Utah Credits and Admissions Committee (2004 — 2007)

University of Utah University Diversity Committee (2004 — 2006)

University of Utah School of Medicine Admissions Committee (1999 — 2004, 2012 —2013)

University of Utah Radiology PRT Committee (1999 — 2000)

University of Utah Radiation Safety Committee (RDRC) (1999 — 2000)

University of Utah College of Engineering Safety Committee (2002 — 2003)

BSEE Program Committee, Electrical and Computer Engineering Department (2002 — 2004)

Course Scheduling Officer of the Department of Radiology, University of Utah (1996 — 2003).

Organized 1993 MIRL Annual Research Symposium, Midway, Utah, and MIRL weekly Journal Club (1994).

3. Community activities:

Utah Chinese Golden Spike Society

Utah Chinese New Year Organizing Committee

4. Teaching and honors:

Supervising graduate students (Yi Weng, Chi-Hua Tung, Yu-Lung Hsieh, Roman Basko, Chuanyong Bai, Vladimir Panin, Girish Bal, Bing Feng, Randy Polson, Eric Sorensen, Bin Zhang, Rodney Earl, Kylie Covington, Do-Sik Hwang, Qiulin Tang, Rajesh Venkatraman, Yan Yan, Qiu Huang, Aaron Jorgensen, Richard Allred, Fengfeng Jing, Jacob Piatt, Thayne Miller, Geoff De Gennaro, Yanfei Mao, Zeljko Divkovic, Jordan Bohne, Bronson Stephens, Alex Briggs, Ross Frazier, Jimmy Phan, Nick Marietti, Man Dinh).

Supervising undergraduate students (Fred Trisjono, Jared Tanner, Antonelly Bermudez, Todd Ovard, John Chapman, Scott Karren, Ken Scott, Rodney Earl, Ben Holt, Grant Anderson, Keith Tracey, James Wright, Mark Erickson, Thayne Miller, Jacob Piatt, Jared Doot, Andy Stevens, Ross Frazier, Man Dinh)

Best instructor in the College of Engineering, University of Utah, Summer 1993, based on student evaluation score. Course taught: Bioengineering 552: Magnetic Resonance Imaging.

Top instructor in the College of Engineering, University of Utah, Spring 2002, based on student evaluation score. Course taught: Electrical Engineering 3510: Introduction to Feedback Systems.

Rated in the top 15% of the 30 faculty members teaching graduate courses in the College of Engineering, University of Utah, Winter 1995. Course taught: Bioengineering 651: Advanced Magnetic Resonance Imaging.

Rated in the top 15% of the faculty members teaching graduate courses in the College of Engineering, University of Utah, Winter 1996, Course taught: Bioengineering 652/EE 602: Three- Dimensional Reconstruction Techniques in Medical Imaging.

"Image reconstruction — a tutorial" was in the Elsevier Ltd. (http://www.sciencedirect.com) top 20 most downloaded articles during 2003.

Third place winner of the 2016 Low-Dose CT Grand Challenge, hosted by National Institute of Biomedical Imaging and Bioengineering, Accosiation of American Physisists of Medicine, Mayo Clinic, and CT Clinical Innovation Center, August 1, 2016

Second place winner of the 2021 Power of Passengers Challenge, hosted by the US Transportation Security Administration (TSA)
https://powerofpassengers.techconnectventures.com/

5. Ph.D. Students (University of Utah):

1.   Chi-Hua Tung, [Nonuniform attenuation correction in cardiac SPECT using simultaneous transmission and emission converging tomography](), 1994
2.   Yu-Lung Hsieh, [Projection space image reconstruction using natural pixel bases for SPECT](), 1996
3.   Yi Weng, [Image reconstruction from cone-beam projections with attenuation correction](), 1997
4.   Chuanyong Bai, [A slab-by-slab blurring model for point response in single photon emission computed tomography (image reconstruction)](), 2000

5.	Vladimir Panin, [Attenuation correction in single photon emission computed tomography using a priori information](), 2000

6.	Bing Feng, [Modeling of the left ventricle (LV) by using mechanical models and image data](), 2002

7.	Girish Bal, [Multisegment slant-hole single photon emission computed tomography](), 2003

8.	Dosik Huang, [Iterative reconstruction for single photon emission computed tomography](), 2006

9.	Qiu Huang**,** [Analytical image reconstruction in single photon emission computed tomography](), 2006

10.	Bin Zhang, [SPECT iterative reconstruction with various types of measurements](), 2007

11.	Qiulin Tang, [Analytic reconstruction for single photon emission computed tomography](), 2007

12.	Yan Yan, [A postprocessing method for scatter compensation in single photon emission computed tomography](), 2008

13.	Yanfei Mao, [Segmented parallel and slant-hole stationary cardiac single photon emission computed tomography](), 2015